

Portable Outboard Marine Tanks and Components



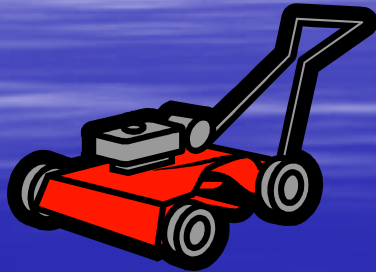
**Board Hearing
September 25, 2008**

Outline

- **Background**
- **Proposed Regulation**
- **Environmental Impacts**
- **Economic Impacts**
- **Conclusions and Recommendation**

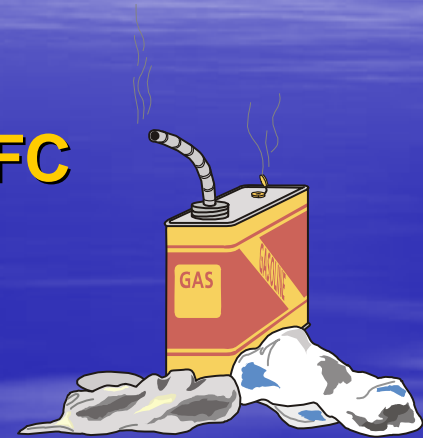
Background

ARB Historical Source Categories



SORE

PFC



OMT



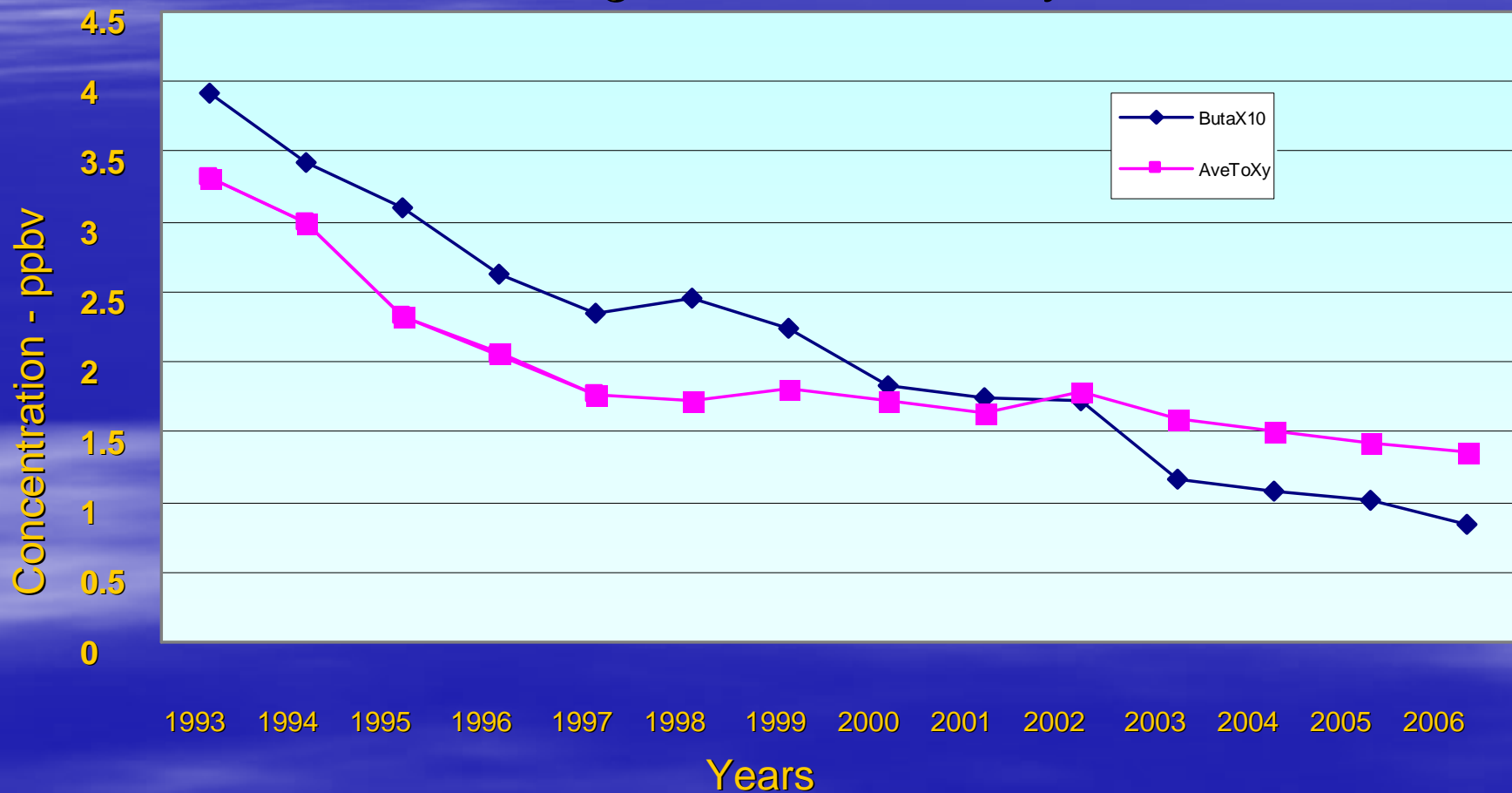
AST



Background

Evaporative and Exhaust Indicators

Exhaust and Evaporative Gasoline Emission Trends Based on Butadiene and Average Toluene and Xylene Emissions



Background

Evaporative Source Categories

Completed Regulations

Name	Reductions (tpd)	
Portable Fuel Containers (PFC)	70	√
Enhanced Vapor Recovery (EVR) for USTs	25	√
Small Off Road Engines	32	√
PFC Amendments	18	√
EVR for ASTs	1-2	√

Background

Evaporative Source Categories

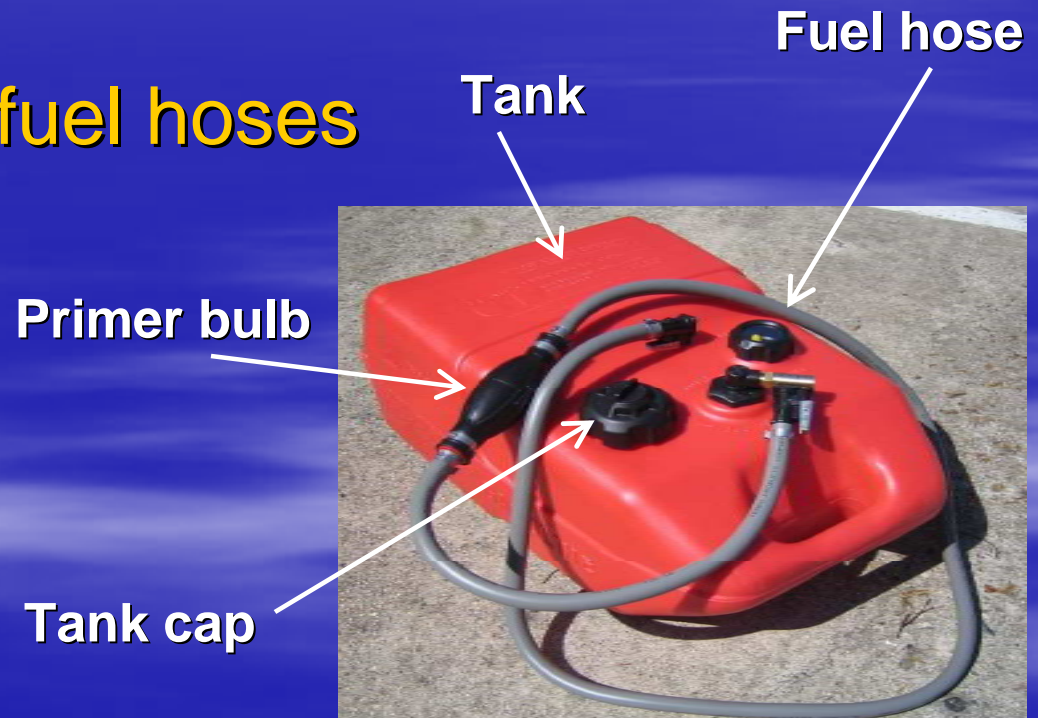
Prospective Regulations

Name	Reductions (tpd)	
OMT Regulation	4.2	✓
GDF Hose Permeation	1.5	
Pleasure Craft	37	
Off-Highway Recreational Vehicles	9	
RV Fueling Stations	tbd	
Portable Fueling Stations	tbd	
Mobile Fuelers	tbd	
Truck/Trailer Auxiliary Fuel Tanks	tbd	

Background

Portable Outboard Marine Tanks and Components

- 30 gallons or less ($90\% \leq 7$ gallons)
- Includes:
 - accompanying fuel hoses
 - primer bulbs
 - and tank caps



Background

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Proposed Regulation

Fuel Hoses and Caps

- Fuel Hose
 - Permeation rate $\leq 15 \text{ g/m}^2/\text{d}$
 - Effective January 1, 2010
- Tank Cap
 - Self sealing $\leq 5 \text{ psig}$
 - Effective January 1, 2010

Proposed Regulation

Tanks and Primer Bulbs

- Tank
 - Diurnal rate $\leq 1.5 \text{ g/m}^2/\text{d}$
 - Effective January 1, 2011
- Primer Bulb
 - Permeation rate $\leq 15 \text{ g/m}^2/\text{d}$
 - Effective January 1, 2011

Proposed Regulation

Comparison of ARB and EPA Control Strategy



ARB

- Permeation
- Self Sealing Caps
- Evaporation
- Leaks



EPA

- Permeation
- Self Sealing Caps

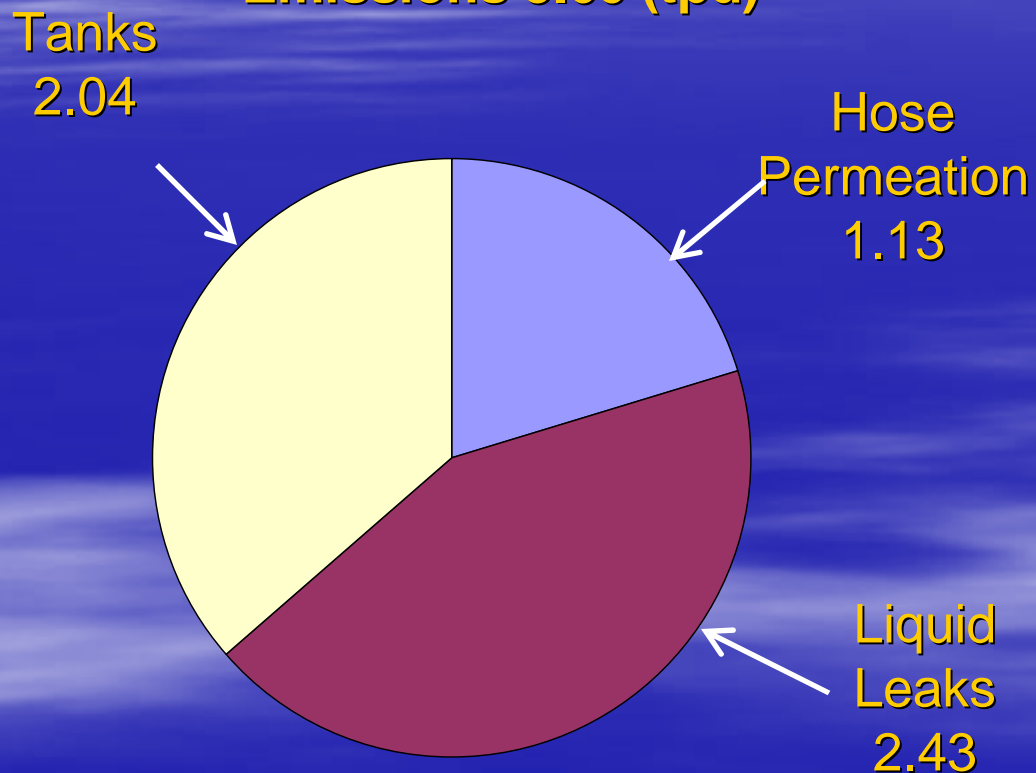
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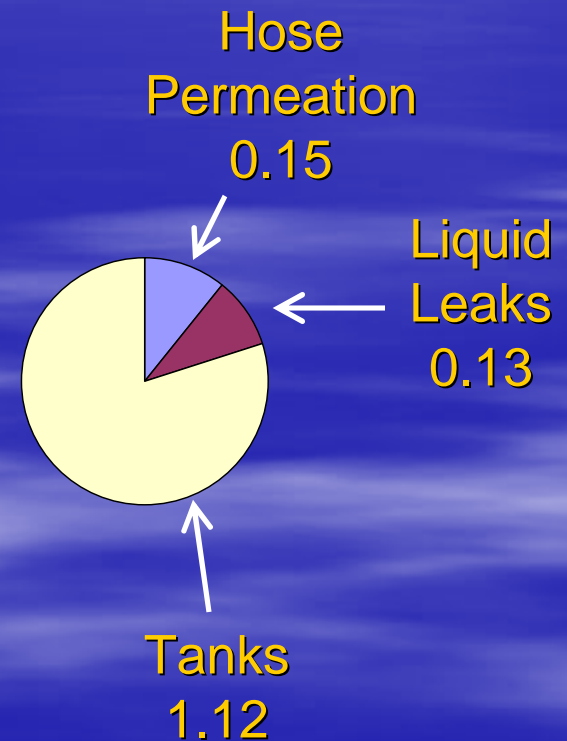
Environmental Impacts

Summertime Average Emissions

2020 Uncontrolled Emissions 5.60 (tpd)



2020 Controlled Emissions 1.40 (tpd)



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Economic Impacts

Component Costs

Component	Average Retail Cost Increase
Tank	\$4.35
Cap	\$1.29
Fuel hose	\$2.26
Primer bulb	\$2.20
Total	\$10.10

- **Typical retail cost per OMT ~ \$50 - \$70**

Economic Impacts

Lifetime (18 years) Savings

- Annual fuel savings - 4.5 gallons per OMT
- Annual savings - \$16 per OMT
- Net (total savings minus costs) lifetime savings \$27.5 million

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Conclusions and Recommendation

Portable Outboard Marine Tanks and Components

- Developed with extensive outreach
- Significant emission reductions (ROG)
 - 4.2 tons per day in 2020
- Consumer savings
 - \$27.5 million
- 15 day changes

Portable Outboard Marine Tanks and Components



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